Election/Restrictions

Claims 1-9 are directed to an allowable process. Pursuant to the procedures set forth in MPEP § 821.04(B), claims 10-16, directed to the product by process, the process of using, and the product of the process of using an allowable product, previously withdrawn from consideration as a result of a restriction requirement, are hereby rejoined and fully examined for patentability under 37 CFR 1.104.

Because all claims previously withdrawn from consideration under 37 CFR 1.142 have been rejoined, **the restriction requirement as set forth in the Office action mailed on 12/28/2007 is hereby withdrawn**. In view of the withdrawal of the restriction requirement as to the rejoined inventions, applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Kathleen Asher on 06/12/2008.

The application has been amended as follows:

In claim 10 lines 1-2, please replace "any one of the claims 1 to 9" with –claim 1--

In claim 14 lines 2-3, please replace "any one of the claims 11 to 13" with –claim 11--.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

i. Independent claim 1 and the claims dependent thereon have been allowed because the following reference of record fails to teach or suggest the claimed limitations of using a quantity of acid agent in said initial solution such that the pH of said intermediate solution is less than 3, exchanging water by an organic solvent with a lower surface tension than water to obtain a final solution, or dispersing said final solution.

Imura et al. (EP 1 167 296 A1) disclose a process for producing a stable solution containing anatase titanium oxide (col. 20 lines 1-5) comprising:

preparing an initial stabilized peptized solution including a titanium precursor material (col. 14 lines 21-22 and 29-36), an organic solvent (col. 14 lines 22-25, 26-28, and 37-41; col. 17 lines 30-33), and an acid agent (col. 14 lines 46-48), (col. 19 lines 43-49),

mixing said initial solution with water (col. 17 lines 30-33) in such a manner that the molar ratio of water-to-titanium of the obtained intermediate solution is greater than 0.8 (col. 19 lines 49-51),

stabilizing said mixture at room temperature (col. 20 lines 13-20),

heat treating said intermediate solution at a temperature between 80°C and 270°C (col. 14 lines 44-46, col. 18 lines 32-37, col. 20 lines 37-43) in a closed, pressurized vessel (the definition of an autoclave) (col. 14 lines 44-46 and 57-58, col. 15 lines 1-8, col. 8 lines 31-33),

dispersing the heat-treated intermediate solution by ultrasonication (col. 15 lines 22-28, col. 22 lines 36-44).

However, Imura et al. fail to disclose the use of a quantity of acid agent in said initial solution such that the pH of said intermediate solution is less than 3, the exchanging of water by an organic solvent with a lower surface tension than water to obtain a final solution, or the dispersing of said final solution.

ii. Independent claim 1 and the claims dependent thereon have been allowed because the following reference of record fails to teach or suggest the claimed limitations of preparing the initial stabilized peptized solution including an organic solvent, mixing said initial solution with water in such a manner that the molar ratio of water-to-titanium of the obtained intermediate solution is greater than 0.8, or any further treatment steps of the reconcentrated dispersed solution.

Barbé et al. (Nanocrystalline Titanium Oxide Electrodes for Photovoltaic Applications) disclose a process for producing a stable solution containing anatase titanium oxide comprising:

preparing an initial stabilized peptized solution including a titanium precursor material and an acid agent (p. 3157 col. 2),

mixing said initial solution with water (p. 3157 col. 2), the quantity of acid agent in said initial solution being such that the pH of said intermediate solution is 1 (p. 3158 col. 1),

heat treating said intermediate solution at a temperature between 200°C and 240°C in an autoclave (p. 3170 col. 1),

dispersing the heat-treated intermediate solution via ultrasonication (p. 3157 col. 1),

re-concentrating said dispersed solution (p. 3157 col. 1)

However, Barbé et al. fail to disclose the preparation of the initial stabilized peptized solution including an organic solvent, the mixing of said initial solution with water (p. 3157 col. 2) in such a manner that the molar ratio of water-to-titanium of the obtained intermediate solution is greater than 0.8, or any further steps of treating the reconcentrated dispersed solution, such as exchanging water by an organic solvent with lower surface tension than water to obtain a final solution and then dispersing said final solution.

iii. Independent claim 1 and the claims dependent thereon have been allowed because the following reference of record fails to teach or suggest the claimed limitations of preparing the initial stabilized peptized solution including an organic solvent or mixing said initial solution with water in such a manner that the molar ratio of water-to-titanium of the obtained intermediate solution is greater than 0.8.

Miyake et al. (U.S. Patent No. 6,530,946 B1) disclose a method for further treating the reconcentrated dispersed solution of Barbé et al. comprising the following the steps:

exchanging water by an organic solvent with lower surface tension than water to obtain a final solution (col. 8 lines 5-14, col. 45 lines 18-22 and lines 34-36), and

dispersing said final solution (col. 8 lines 5-14, col. 45 lines 18-22 and lines 34-36).

However, Miyake et al. fail to disclose the preparation of the initial stabilized peptized solution including an organic solvent or the mixing of said initial solution with water in such a manner that the molar ratio of water-to-titanium of the obtained intermediate solution is greater than 0.8.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The Restriction Requirement has been withdrawn, and as such, claims 10-16 have been rejoined.

Claims 1-16 have been allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SERENA L. HANOR whose telephone number is (571)270-3593. The examiner can normally be reached on Monday - Thursday 8:00 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SLH

/Timothy C Vanoy/
Primary Examiner, Art Unit 1793